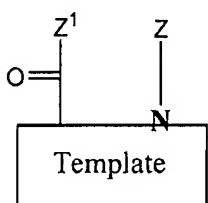


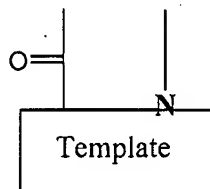
Amendments to the Claims: This claim listing replaces all prior versions, and listings of claims in the application. Please amend the claims as follows:

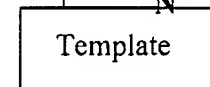
1-39. (Previously cancelled)

40. (Previously presented) A compound of the general formula



(I)



wherein  is selected from the group consisting of ^DPro-^LPro and ^LPro-^DPro; Z and Z' are chains of n and, respectively, n' α-amino acid residues whereby either n is 4 and n' is 6 or n is 5 and n' is 7, the positions of said amino acid residues in said chain Z being counted from the N-terminal amino acid and the positions of said amino acid residues in chain Z' being counted from the C-terminal amino acid, whereby these amino acid residues are

- if n is 4 and n' is 6 the amino acid residues in positions 1 to 4 of the chain Z and in positions 1' to 6' in chain Z' are:

- P1: Tyr or Arg;
- P2: L-citrulline (Cit) or Arg;
- P3: Cys;
- P4: Arg-NH₂;

- P1': Lys or Arg;
 - P2': Tyr;
 - P3': Cys;
 - P4': L-2-naphthylalanine (2-Nal);
 - P5': Arg; and
 - P6': Arg;
- Cys at P3 and P3' can form a disulfide bridge;

and

- if n is 5 and n' is 7, the amino acid residues in positions 1 to 5 in chain Z and in positions 1' to 7' in chain Z¹ are:

- P1: Tyr;
 - P2: Arg;
 - P3: Cit;
 - P4: Cys;
 - P5: Arg or Arg-NH₂
-
- P1': Lys;
 - P2': Cit;
 - P3': Tyr;
 - P4': Cys;
 - P5': 2-Nal, Trp, L-para-aminophenylalanine (F(pNH₂)) or L-6-Cl-Tryptophan (W(6-Cl));
 - P6': Arg;

- P7': ^DArg, Arg, Ac-Arg, iPr-Arg, N-(2-aminoethyl)glycine ((EA)G), N-(3-aminopropyl)glycine ((PrA)G), N-(4-amino-n-butyl)glycine ((BA)G), N-(2-guanidinoethyl)glycine ((EGU)G), N-(3-guanidino-n-propyl)glycine ((PrGU)G), or N-(4-guanidino-n-butyl)glycine ((BGU)G);

Cys at P4 and P4' can form a disulfide bridge

or an enantiomer thereof or pharmaceutically acceptable salts thereof.

41-49. (Previously cancelled)

50. (Previously presented) The compound according to claim 40, wherein the α -amino acid residues in positions 1 to 4 of the chain Z and the α -amino acid residues in positions 1' to 6' chain Z¹ are:

- P1: Tyr, or Arg;
- P2: Cit, or Arg;
- P3: Cys;
- P4: Arg-NH₂;
- P1': Lys, or Arg;
- P2': Tyr;
- P3': Cys;
- P4': 2-Nal;
- P5': Arg;
- P6': Arg; and

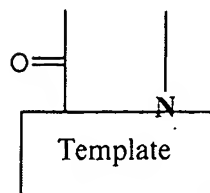
Cys at P3 and P3' can form a disulfide bridge.

51. (Previously presented) The compound according to claim 40, wherein the α -amino acid residues in positions 1 to 5 of the chain Z and the α -amino acid residues in positions 1' to 7' chain Z¹ are:

- P1: Tyr;
- P2: Arg;
- P3: Cit;
- P4: Cys;
- P5: Arg, or Arg-NH₂;
- P1': Lys;
- P2': Cit;
- P3': Tyr;
- P4': Cys;
- P5': 2-Nal, Trp, F(pNH₂); or W(6-Cl);
- P6: Arg;
- P7: ^DArg, Arg, Ac-Arg, iPr-Arg, (EA)G, (PrA)G, (BA)G, (EGU)G, (PrGU)G, or (BGU)G; and

Cys at P4 and P4' can form a disulfide bridge.

52. (Previously presented) The compound of formula I according to claim 40, wherein



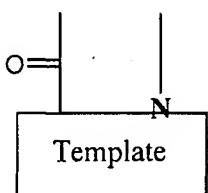
is ^DPro-^LPro, n is 5, n' is 7 and the amino acid residues in positions 1 to 5 of the chain Z and the amino acid residues in positions 1' to 7' chain Z¹ are:

- P1: Tyr;
- P2: Arg;
- P3: Cit;
- P4: Cys;
- P5: Arg-NH₂;
- P1': Lys;
- P2': Cit;

- P3': Tyr;
- P4': Cys;
- P5': 2-Nal;
- P6': Arg; and
- P7': Arg; and

Cys at P4' and P4 forming a disulfide bridge.

53. (Previously presented) The compound of formula I according to claim 40, wherein

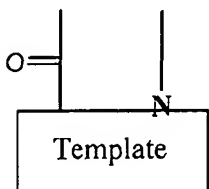


is ^DPro-^LPro, n is 5, n' is 7 and the amino acid residues in positions 1 to 5 of the chain Z and the amino acid residues in positions 1' to 7' chain Z¹ are:

- P1: Tyr;
- P2: Arg;
- P3: Cit;
- P4: Cys;
- P5: Arg-NH₂;
- P1': Lys;
- P2': Cit;
- P3': Tyr;
- P4': Cys;
- P5': 2-Nal;
- P6': Arg; and
- P7': Ac-Arg; and

Cys at P4' and P4 forming a disulfide bridge.

54. (Previously presented) The compound of formula I according to claim 40, wherein

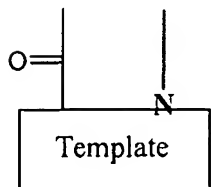


is ^DPro-^LPro, n is 5, n' is 7 and the amino acid residues in positions 1 to 5 of the chain Z and the amino acid residues in positions 1' to 7' chain Z' are:

- P1: Tyr;
- P2: Arg;
- P3: Cit;
- P4: Cys;
- P5: Arg-NH₂;
- P1': Lys;
- P2': Cit;
- P3': Tyr;
- P4': Cys;
- P5': 2-Nal
- P6': Arg; and
- P7': ^DArg; and

Cys at P4' and P4 forming a disulfide bridge.

55. (Previously presented) The compound of formula I according to claim 40, wherein



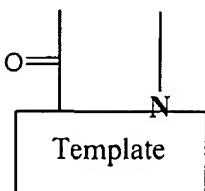
is ^DPro-^LPro, n is 5, n' is 7 and the amino acid residues in positions 1 to 5 of the chain Z and the amino acid residues in positions 1' to 7' chain Z' are:

- P1: Tyr;
- P2: Arg;

- P3: Cit;
- P4: Cys;
- P5: Arg-NH₂;
- P1': Lys;
- P2': Cit;
- P3': Tyr;
- P4': Cys;
- P5': Phe(pNH₂);
- P6': Arg; and
- P7': Arg; and

Cys at P4' and P4 forming a disulfide bridge.

56. (Previously presented) The compound of formula I according to claim 40, wherein



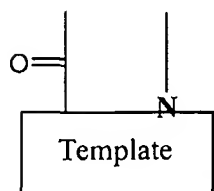
is ^DPro-^LPro, n is 5, n' is 7 and the amino acid residues in positions 1 to 5 of the chain Z and the amino acid residues in positions 1' to 7' chain Z' are:

- P1: Tyr;
- P2: Arg;
- P3: Cit;
- P4: Cys;
- P5: Arg-NH₂;
- P1': Lys;
- P2': Cit;
- P3': Tyr;
- P4': Cys;
- P5': 2-Nal;

- P6': Arg; and
- P7': (PrA)G; and

Cys at P4' and P4 forming a disulfide bridge.

57. (Previously presented) The compound of formula I according to claim 40, wherein



is ^DPro-^LPro, n is 5, n' is 7 and the amino acid residues in positions 1 to 5 of the chain Z and the amino acid residues in positions 1' to 7' chain Z¹ are:

- P1: Tyr;
- P2: Arg;
- P3: Cit;
- P4: Cys;
- P5: Arg;
- P1': Lys;
- P2': Cit;
- P3': Tyr;
- P4': Cys;
- P5': 2-Nal;
- P6': Arg; and
- P7': Arg; and

Cys at P4' and P4 forming a disulfide bridge.

58. (Cancelled)

59.-60. (Previously cancelled)

61. (Previously presented) A pharmaceutical composition containing a compound according to claim 40 and a pharmaceutically inert carrier.

62. (Previously presented) The composition according to claim 61 in a form suitable for a mode of administration selected from the group consisting of oral, topical, transdermal, injection, buccal, transmucosal, pulmonary and inhalation.

63. (Previously presented) The composition according to claim 61 in a form selected from the group consisting of tablets, dragees, capsules, solutions, liquids, gels, plaster, creams, ointments, syrup, slurries, suspensions, spray, nebuliser or suppositories.

64. (Previously presented) The composition according to claim 62 in a form selected from the group consisting of tablets, dragees, capsules, solutions, liquids, gels, plaster, creams, ointments, syrup, slurries, suspensions, spray, nebuliser or suppositories.

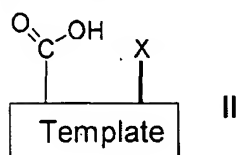
65. (Previously presented) A method for treating a disorder mediated by or resulting from CXCR4 activity which comprises:

administering to a subject in need of such treatment an effective amount of a compound according to claim 40.

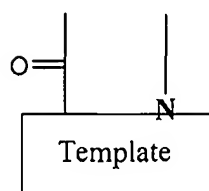
66. (Previously presented) A process for the manufacture of compounds according to claim 40, which process comprises

- (a) coupling an appropriately functionalized solid support with an appropriately N-protected derivative of that amino acid which in the desired end-product is in position 4 of Z if n is 4 or in position 5 of Z if n is 5, any functional group which may be present in said N-protected amino acid derivative being likewise appropriately protected;
- (b) removing the N-protecting group from the product thus obtained;

- (c) coupling the product thus obtained with an appropriately N-protected derivative of that amino acid which in Z of the desired end-product is one position nearer the N-terminal amino acid residue, any functional group which may be present in said N-protected amino acid derivative being likewise appropriately protected;
- (d) removing the N-protecting group from the product thus obtained;
- (e) repeating steps (c) and (d) until the N-terminal amino acid residue of Z has been introduced;
- (f) coupling the product thus obtained with a compound of the general formula



wherein



is as defined in claim 40 and X is an N-protecting group; or, alternatively,

- (fa) coupling the product obtained in step (e) with an appropriately N-protected derivative of ^LPro or ^DPro;
- (fb) removing the N-protecting group from the product thus obtained; and
- (fc) coupling the product thus obtained with an appropriately N-protected derivative of ^DPro and, respectively, ^LPro;
- (g) removing the N-protecting group from the product obtained in step (f) or (fc);
- (h) coupling the product thus obtained with an appropriately N-protected derivative of that amino acid which in the desired end-product is in position 1 of Z¹, any functional group which may be present in said N-protected amino acid derivative being likewise appropriately protected;
- (i) removing the N-protecting group from the product thus obtained;

- (j) coupling the product thus obtained with an appropriately N-protected derivative of that amino acid which in the desired end-product is one position farther away from position 1 of Z^1 , any functional group which may be present in said N-protected amino acid derivative being likewise appropriately protected;
- (k) removing the N-protecting group from the product thus obtained;
- (l) repeating steps (j) and (k) until all amino acid residues of Z^1 have been introduced;
- (m) if desired, selectively deprotecting one or several protected functional group(s) present in the molecule and appropriately substituting the reactive group(s) thus liberated;
- (n) if desired, forming one or two interstrand linkage(s) between side-chains of appropriate amino acid residues at opposite positions of the β -strand region;
- (o) detaching the product thus obtained from the solid support and removing any protecting groups present on functional groups of any members of the chain of amino acid residues and, if desired, any protecting group(s) which may in addition be present in the molecule; and
- (p) if desired, converting the product thus obtained into a pharmaceutically acceptable salt or converting a pharmaceutically acceptable, or unacceptable, salt thus obtained into the corresponding free compound of formula I or into a different, pharmaceutically acceptable, salt.

67. (Previously cancelled)

68. (Cancelled)

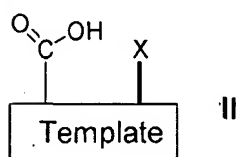
69-70. (Previously cancelled)

71. (Currently amended) A process for the manufacture of compounds according to claim 40, which process comprises:

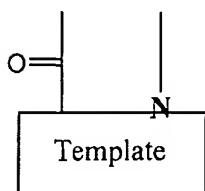
- (a) coupling an appropriately functionalized solid support with an appropriately N-protected derivative of that amino acid which in the desired end-product is in position 4 of Z if n is 4 or in

position 5 of Z if n is 5, any functional group which may be present in said N-protected amino acid derivative being likewise appropriately protected;

- (b) removing the N-protecting group from the product thus obtained;
- (c) coupling the product thus obtained with an appropriately N-protected derivative of that amino acid which in Z of the desired end-product is one position nearer the N-terminal amino acid residue, any functional group which may be present in said N-protected amino acid derivative being likewise appropriately protected;
- (d) removing the N-protecting group from the product thus obtained;
- (e) repeating steps (c) and (d) until the N-terminal amino acid residue of Z has been introduced;
- (f) coupling the product thus obtained with a compound of the general formula



wherein



is selected from the group consisting of ^DPro-^LPro and ^LPro-^DPro and X is an N-protecting group; or, alternatively,

- (fa) coupling the product obtained in step (e) with an appropriately N-protected derivative of ^LPro or ^DPro;
- (fb) removing the N-protecting group from the product thus obtained; and
- (fc) coupling the product thus obtained with an appropriately N-protected derivative of ^DPro and, respectively, ^LPro;
- (g) removing the N-protecting group from the product obtained in step (f) or (fc);

- (h) coupling the product thus obtained with an appropriately N-protected derivative of that amino acid which in the desired end-product is in position 1 of Z^1 , any functional group which may be present in said N-protected amino acid derivative being likewise appropriately protected;
- (i) removing the N-protecting group from the product thus obtained;
- (j) coupling the product thus obtained with an appropriately N-protected derivative of that amino acid which in the desired end-product is one position farther away from position 1 of Z^1 , any functional group which may be present in said N-protected amino acid derivative being likewise appropriately protected;
- (k) removing the N-protecting group from the product thus obtained;
- (l) repeating steps (j) and (k) until all amino acid residues of Z^1 have been introduced;
- (m) if desired, selectively deprotecting one or several protected functional group(s) present in the molecule and appropriately substituting the reactive group(s) thus liberated;
- (n) if desired, forming one or two interstrand linkage(s) between side-chains of appropriate amino acid residues at opposite positions of the β -strand region;
- (o) detaching the product thus obtained from the solid support and removing any protecting groups present on functional groups of any members of the chain of amino acid residues and, if desired, any protecting group(s) which may in addition be present in the molecule; and
- (p) if desired, converting the product thus obtained into a pharmaceutically acceptable salt or converting a pharmaceutically acceptable, or unacceptable, salt thus obtained into the corresponding free compound of formula I or into a different, pharmaceutically acceptable, salt;

but wherein a residue of ~~glycine having the amino group substituted by a chain having a polar cationic residue~~ N-(2-aminoethyl)glycine, N-(3-aminopropyl)glycine, N-(4-amino-n-butyl)glycine, N-(2-guanidinoethyl)glycine, N-(3-guanidino-n-propyl)glycine or N-(4-guanidino-n-butyl)glycine is introduced by coupling with a leaving group-containing ~~acylating agent~~, followed by nucleophilic displacement with ~~an amine having the amino group substituted by a chain having a polar cationic residue which, if necessary, is appropriately protected~~ ammonia and, respectively, guanidine.

Application No. 10/550,778

Amendment Under 37 C.F.R. §1.312 dated September 29, 2010

Docket No. 753-54 PCT/US

Page 15

72. (New) The process according to claim 71, wherein the leaving group in said leaving group-containing acylating agent is bromo, chloro or iodo acetic acid.